



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>A61F 5/048, 5/41</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 96/26691</b> <b>(43) International Publication Date:</b> 6 September 1996 (06.09.96)
<b>(21) International Application Number:</b> PCT/DK95/00407 <b>(22) International Filing Date:</b> 13 October 1995 (13.10.95) <b>(30) Priority Data:</b> 0205/95 27 February 1995 (27.02.95) DK 60/004,304 26 September 1995 (26.09.95) US <b>(71) Applicant (for all designated States except US):</b> SIANA, Marianne, Bak [DK/DK]; Tagensmindevej 1, DK-2820 Gentofte (DK). <b>(72) Inventor; and</b> <b>(75) Inventor/Applicant (for US only):</b> SIANA, Jørn, Ege [DK/DK]; Tagensmindevej 1, DK-2820 Gentofte (DK). <b>(74) Agent:</b> HOFMAN-BANG & BOUTARD, LEHMANN & REE A/S; Adelgade 15, DK-1304 Copenhagen K (DK).		<b>(81) Designated States:</b> AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, MW, SD, SZ, UG), European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> <i>In English translation (filed in Danish).</i>
<b>(54) Title:</b> A METHOD AND AN APPARATUS FOR STRETCHING THE PENIS		
<b>(57) Abstract</b>		
<p>The invention relates to a method of generating a permanent elongation of the penis. The method comprises fitting a substantially ring-shaped element (1) proximally on the penis, said element (1) being provided with hinge elements (2) which secure connecting elements (3) at their one end, said connecting elements (3) extending along the penis to a region near the glans so that the connecting elements (3) hold the distal end of the penis with holding means (4). The method is unique by using adjustment means (10) for creating a permanent traction between the proximal and distal ends of the penis for an extended period of time. The invention moreover relates to an apparatus for performing the method. The apparatus is characterized in that the connecting elements (3) comprise adjustment means (10) for adjusting the length of the connecting elements (3) so that they hold the ring-shaped element (1) at a given distance from the holding means (4). This results in an apparatus which is capable of providing traction of the penis independent of the user's position. The user can thus wear the apparatus day and night without discomfort.</p> <div data-bbox="812 1134 1396 1890"> </div>		

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A method and an apparatus for stretching the penis  
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5    Field of the invention

The present invention relates to a method of generating a permanent elongation of the penis. The invention moreover relates to an apparatus for performing the method, said  
10    apparatus comprising a substantially ring-shaped element to be fitted proximally on the penis and connecting elements which are secured at their one end to the ring-shaped element by means of hinge elements, and which substantially extend along the penis to a region around the  
15    glans, where the connecting elements are provided with holding means for holding the distal end of the penis.

Since 1905 it has been known to use tissue traction for stretching parts of the body, and in 1957 Neuman performed tissue expansion in practice. Traction of fingers  
20    was first described by the American Cowen who at the Annual U.S. Congress of Orthopedic Surgery in 1977 spoke about stretching fingers to normal length in children who had been born with too short fingers. On the basis of his  
25    clinical tissue distractions Cowen found that blood vessels and "all" other tissue on the extremity are stretched, provided that the rate of traction does not exceed the "rate of nerve regeneration".

30    Animal experiments have shown that the epidermis responds to constant expansion/tension by increased cell division activity in the basal layer, a process which reaches its maximum within 24-48 hours and normalizes within 6 days.

35    Animal experiments have also shown that expansion of the dermis reduces its thickness slightly. Normalization of

the thickness of the dermis after 2 years' expansion has been reported.

Most immediate prior art

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Devices of the type mentioned in the opening paragraph are known for use as aids during intercourse, i.e. for shorter periods of time.

- 10 WO 84 01284, e.g., discloses a device of the type mentioned in the opening paragraph for supporting the penis at a fixed angle from the body during intercourse. Prior to mounting of the device, it must be adjusted to fit the length of the penis concerned. The feasibility of subse-
- 15 quent adjustment of the length of the device is not mentioned in the document. EP 370 932 discloses another device for buttressing the penis.

- It is common to the above-mentioned devices that they are
- 20 exclusively adapted to straighten the penis. Therefore, the devices are not adapted to be frequently adjusted in length and are moreover just adapted to be worn during intercourse.

- 25 DE 166168 discloses a device for straightening the urethra to thereby remedy a disorder, such as contracting scars which bend the penis and cause painful urination. The device consists of a metal rod which extends along the penis and is adapted to support the penis. The device
- 30 is constructed to fit the penis concerned and does not stretch it, but merely straightens it for relief of pains, e.g. in connection with urination. The device, like the apparatus of the invention, comprises hinge elements at the proximal end of the penis, so that the device
- 35 can be worn for an extended period of time.

Objects, etc.

The object of the invention is to provide a method of generating a permanent elongation of the penis.

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The method is unique by using means for adjusting the connecting elements to cause a permanent traction between the proximal and distal ends of the penis for an extended period of time.

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Experiments have been performed with 10 patients who underwent traction of the penis in accordance with the method over a period of 8 weeks. The experiments showed that 5 patients who had previously undergone surgical penile lengthening (detachment of the cavernous corpora from the symphysis) averagely achieved a 5.5 cm lengthening of the penis, and that the patients without prior penile surgery averagely achieved a 2.5 cm lengthening. A traction of 4-6 newtons was applied for 24 hours, day and night.

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Another object of the invention is to provide an apparatus for performing the method which is adapted to bring about a permanent elongation of the penis, and which can be worn by the user day and night without any risk or discomfort.

25

This object is achieved by an apparatus of the type mentioned in the opening paragraph, where the connecting elements have adjustment means for adjusting their length so that the connecting elements hold the ring-shaped element at a given distance from the holding means.

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The advantage of this apparatus is that the length of the connecting elements can easily be adjusted, and that the apparatus always provides traction of the penis irrespec-

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tive of the user's position. The user can thus wear the apparatus round the clock without any risk or discomfort, which has not been possible with the known devices.

5 Mode of operation

Tissue traction and tissue expansion are known phenomena in traction of extremities, such as fingers, thighs and skin. Experiments have shown that blood vessels and "all" other tissue on the extremities can be stretched so as to cause permanent elongation of the extremities. However, the rate of traction must not exceed the rate of nerve regeneration since, otherwise, the tissue may be damaged.

10 The method of generating permanent elongation of the penis comprises positioning a substantially ring-shaped element proximally on the penis and attaching the holding means to the penis. Then, permanent traction is applied between the proximal and distal ends of the penis for an extended period of time.

The total length of the connecting elements is increased during this period via the adjustment means, thus causing tissue extraction of the tissue in the penis to generate a permanent elongation of the penis. The length of the connecting elements may e.g. be increased by 1/2 to 1 mm per day. Desirably, a fairly constant traction ranging from about 4 to 12 newtons is applied to the penis.

25 When using the apparatus of the invention, the substantially ring-shaped element is fitted over the penis and pushed down at the root so that the connecting elements substantially extend along the penis to the distal end of the penis behind the glans, where the holding means are attached around the penis and secure its distal end with respect to the connecting elements. The length of the

connecting elements may be changed via the adjustment elements so that a substantially constant traction is applied to the penis, even though this is lengthened. The hinge elements enable the apparatus to be worn round the  
5 clock, with constant traction of the penis.

#### Advantages of advantageous embodiments

In a particularly advantageous embodiment of the method  
10 of the invention traction is applied with a tractive force greater than 4 newtons and less than 12 newtons. This ensures suitable stretching of the penis and thus relatively fast expansion of the tissue without causing any damage.

15 In another embodiment of the method of the invention traction is applied permanently for a period exceeding 14 days. Experiments have shown that traction of the penis for a period of this duration results in an acceptable  
20 lengthening to the user.

In an expedient embodiment of the apparatus of the invention, the adjustment means are constructed such that the length of the connecting elements can be adjusted while  
25 the apparatus is fitted on the penis. This facilitates adjustment of the length of the connecting elements. Furthermore, it is ensured that pain does not occur in the mounting of the apparatus, because traction is applied to the penis when the penis is to be stretched by a further  
30 amount in the mounting of the apparatus.

In another expedient embodiment of the invention, dynamometric devices are provided between the ring-shaped element and the holding means. This makes it possible to  
35 control the tractive force exerted on the penis. This may be an advantage when another person, e.g. a doctor, is to

adjust the length of the connecting elements, as traction is to be performed with a specific force.

5 In another expedient embodiment the dynamometric devices are constructed as compression spring elements which are arranged between the ring-shaped element and the holding means. This results in a dynamic traction of the penis, while the compression spring elements may easily be used as a particularly simple dynamometric device.

10

In yet another expedient embodiment the holding means are formed by a flexible belt which can be adjusted individually to the diameter of the penis.

15 In another expedient embodiment the holding means may be formed by a support part which is secured to the penis by a strap. The support part supports the penis along the underside, and the strap is secured around the penis immediately behind the glans and to the support part. This  
20 structure of the holding means has been found to be particularly advantageous since the strap ensures good fastening of the penis because the strap supports behind the glans. In addition, this structure is particularly hygienic since the strap is easy to clean.

25

In another embodiment the ring-shaped element comprises a recess which is provided in its inwardly facing periphery. The recess has such an extent that the ring-shaped element does not apply pressure to the urethra, so that  
30 the apparatus is comfortable to use and does cause any discomfort to the user.

#### Brief description of the drawings



The invention will be explained more fully below with reference to the drawings, which show an embodiment of the invention, and in which

5 Fig. 1 shows the apparatus in its entirety, fitted on the penis,

Fig. 2 is a lateral view of a connecting element,

10 Fig. 3 is a lateral view of the substantially ring-shaped element,

Fig. 4 is a front view of the same,

15 Fig. 5 is a sectional view of the same,

Fig. 6 is a front view of another embodiment of the apparatus fitted on the penis, and

20 Fig. 7 is a rear view of the same.

#### Detailed description of an advantageous embodiment

The apparatus of the invention consists of a substantially ring-shaped element 1 on which two connecting parts 3 are mounted via two hinge elements 2. The connecting parts 3 are rotatably secured to the element 1 opposite each other, with an angle of about 180 degrees between their points of attachment.

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As shown in fig. 1, the connecting parts 3, in the mounted state, extend along the penis to a region around the glans. Here, an approximately 3 cm wide elastic band 4 is secured around the penis. This band 4 is moreover attached to the outer ends 5 of the two connecting parts 3. In the embodiment shown in fig. 1 this attachment to

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the connecting parts 3 takes place by inserting their outer ends 5 into two pockets 6 which are provided at their respective sides of the elastic band 4. The elastic band 4 is attached around the penis by means of a closing mechanism consisting of two hooks 7 so that the inside diameter of the band 4 may be adapted to the thickness of the penis.

The part of the elastic band 4 which engages the penis is internally coated with a layer of silicone (not shown), so that it softly engages the penis and external damage to the penis is avoided. Advantageously, the silicone layer is shaped such as to substantially conform to the shape of the penis at the region where it engages, so that the tractive force is distributed over as large an area as possible.

As shown in fig. 4, the ring-shaped element 1 has a recess 4 at an area along its inner periphery, thereby preventing pressure against the urethra. Furthermore, as shown in figs. 3 and 5, the ring-shaped element 1 is curved on the side facing the body, thus leaving space for accommodating the connecting rods 3 and enabling the element 1 to better engage the body. Finally, a layer of silicone 9 is embedded on the side of the ring-shaped element 1 which engages the pubic bone region to soften the pressure of the apparatus against this region.

The connecting parts 3 consist of an intermediate section 10, which has a right-handed thread 13 at one end and a left-handed thread 14 at the other end, as well as an inner part 11 and an outer part 12, said parts 11, 12 having substantially the same length. Each of the two intermediate sections 10 connects the inner parts 11 of the connecting parts with their outer parts 12, as shown in fig. 1, since also these inner 11 and outer 12 parts have

threads 15, 16. It should be noted in this connection that the left-handed threads and the right-handed threads may be reversed of course.

5 It is shown in fig. 2 how the intermediate section 10 engages with threads 15, 16 in the inner part 11 and the outer part 12, respectively. One part has a left-handed thread, and other part has a right-handed thread, thereby enabling the total length of the connecting parts 3 to be  
10 adjusted by turning the intermediate sections 10 one way or the other. It is shown in fig. 2 by means of arrows how the inner and outer parts 11, 12 will move with respect the intermediate section 10 when said section is turned in a particular direction.

15 As shown in figs. 2 and 5, the inner parts 11 of the connecting parts are slidably mounted in cylinder parts 17 and have a thickening 18 at their proximal end so that they cannot be removed from the cylinder parts.

20 In the shown embodiment the apparatus moreover comprises compression springs 19 which are arranged between the thickening 18 of the connecting part and the ring-shaped element 1. The compression springs 19 constantly subject  
25 the thickening 18 and thereby also the two connecting parts 3 to an outwardly directed force in a direction toward the distal end of the penis, said forces being transferred to the penis via the connecting parts 3 and the elastic band 4.

30 As the spring constant of the spring 19 is known, the force exerted can be determined by measuring the compression of the compression spring 19. This compression and thus also the force exerted on the penis may e.g. be registered by reading the distance of the inner part 11 from  
35 the cylinder part 17.

This may be done e.g. in that measuring marks (not shown) are provided in the inner part 11 of the connecting part 3. These measuring marks move with respect to the ring-shaped element when the connecting parts 3 exert a force on the penis. Thus, the force exerted on the penis may be measured by reading the measuring marks aligned with the cylinder part 17, which is an advantage when e.g. a doctor is to adjust the length of the connecting elements. The compression springs 19 moreover ensure a dynamic traction of the penis.

In the embodiment shown the cylinder part 17 is rotatably secured to the ring-shaped element 1 so that the connecting parts 3 can rotate with respect to the ring-shaped element 1. The apparatus can hereby be used round the clock, as the penis can extend from the body at various angles.

Figs. 6 and 7 show another embodiment of the apparatus of the invention. This embodiment differs from the embodiment shown in figs. 1-5 in that the connecting parts 3 are secured to the penis in a different manner.

Thus, a support part 20 is provided instead of the band 4, said support part 20 comprising two pockets 21 which are arranged on their respective sides of the support part 20. The pockets 21 are adapted to receive the connecting parts 3. The central area 22 of the support part is adapted to engage the underside of the penis, as shown in figs. 6 and 7.

In addition, two through bores 23 are provided in the central area 22 of the support part. The openings 23 are adapted to receive a strap 24 which is secured around the penis directly behind the glans. The strap 24 may advance

tageously be made of a flexible material, such as e.g. silicone, thereby reducing the risk of damage to the penis. The attachment to the penis takes place in the shown embodiment by moving the strap 24 around the penis, and  
5 then each of its two ends 25 is passed through the openings 23 down for attachment in two grooves in the rear side of the support part 20.

It is noted that the strap 24 may be secured to the support 20 in many ways, and also the strap 24 may be designed differently. Further, the support part 20, like  
10 the elastic band 4, may be coated with a layer of silicone so that it softly engages the penis and external damage to the penis is avoided.

15 The apparatus may moreover comprise loose segments which can be arranged in elongation of the connecting parts 3. The same apparatus can hereby be used for different persons. Moreover, the length of springs and threads is of  
20 less significance, since the lengths of the connecting parts are then only to be adjustable within a limited range.

It is moreover noted that the means for adjusting the  
25 length of the connecting elements may be constructed in many ways within the scope of the invention. Thus, the intermediate section 10 need only be threaded at one end, and this length adjustment device may moreover be constructed in many ways. For example, the entire connecting  
30 part 3 might be exchanged, or a tension spring might be used.

The attachment of the connecting part 3 to the ring-shaped element 1 may likewise be made in many different  
35 ways. Thus, an ordinary hinge might be used, or the inner part might be made of a flexible material. Also, it is

possible to use hinge elements that allow the penis to turn from side to side.

P a t e n t   C l a i m s :  
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1. A method of generating a permanent elongation of the  
5 penis, wherein a substantially ring-shaped element (1) is  
fitted proximally on the penis, said element (1) being  
provided with hinge elements (2) which secure the con-  
necting parts (3) at their one end, said connecting parts  
10 (3) extending along the penis to a region near the glans  
so that the connecting parts (3) hold the distal end of  
the penis by holding means, c h a r a c t e r i z e d  
by using means (10) for adjusting the length of the con-  
necting elements (3) to cause a permanent traction be-  
15 tween the proximal and distal ends of the penis for an  
extended period of time.

2. A method according to claim 1, c h a r a c t e r -  
i z e d in that the traction is performed with a trac-  
20 tive force which is greater than 4 newtons and less than  
12 newtons.

3. A method according to claim 1 or 2, c h a r a c -  
t e r i z e d in that the traction is performed perma-  
25 nently for a period exceeding 15 days.

4. An apparatus for the generation of a permanent elon-  
gation of the penis, comprising a substantially ring-  
shaped element (1) to be fitted proximally on the penis  
and connecting elements (3) which are secured at their  
30 one end to the ring-shaped element (1) by means of hinge  
elements (2) and which substantially extend along the pe-  
nis to a region around the glans, where the connecting  
elements (3) are provided with holding means (4; 20, 24)  
for holding the distal end of the penis, c h a r a c -  
35 t e r i z e d in that the connecting elements (3) com-  
prise adjustment means (10) for adjusting the length of

the connecting elements (3) so that the connecting elements (3) hold the ring-shaped element (1) at a given distance from the holding means.

5 5. An apparatus according to claim 4, c h a r a c -  
t e r i z e d in that the adjustment means (10) are constructed such that the length of the connecting elements (3) can be adjusted while the apparatus is fitted on the penis.

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6. An apparatus according to claim 4 or 5, c h a r a c -  
t e r i z e d in that dynamometric devices are provided between the ring-shaped element (1) and the holding means.

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7. An apparatus according to claim 6, c h a r a c -  
t e r i z e d in that the dynamometric devices comprise compression spring means (19) which are arranged between the ring-shaped element (1) and the holding means.

20

8. An apparatus according to one or more of the preceding claims, c h a r a c t e r i z e d in that the holding means are formed by a flexible belt (4).

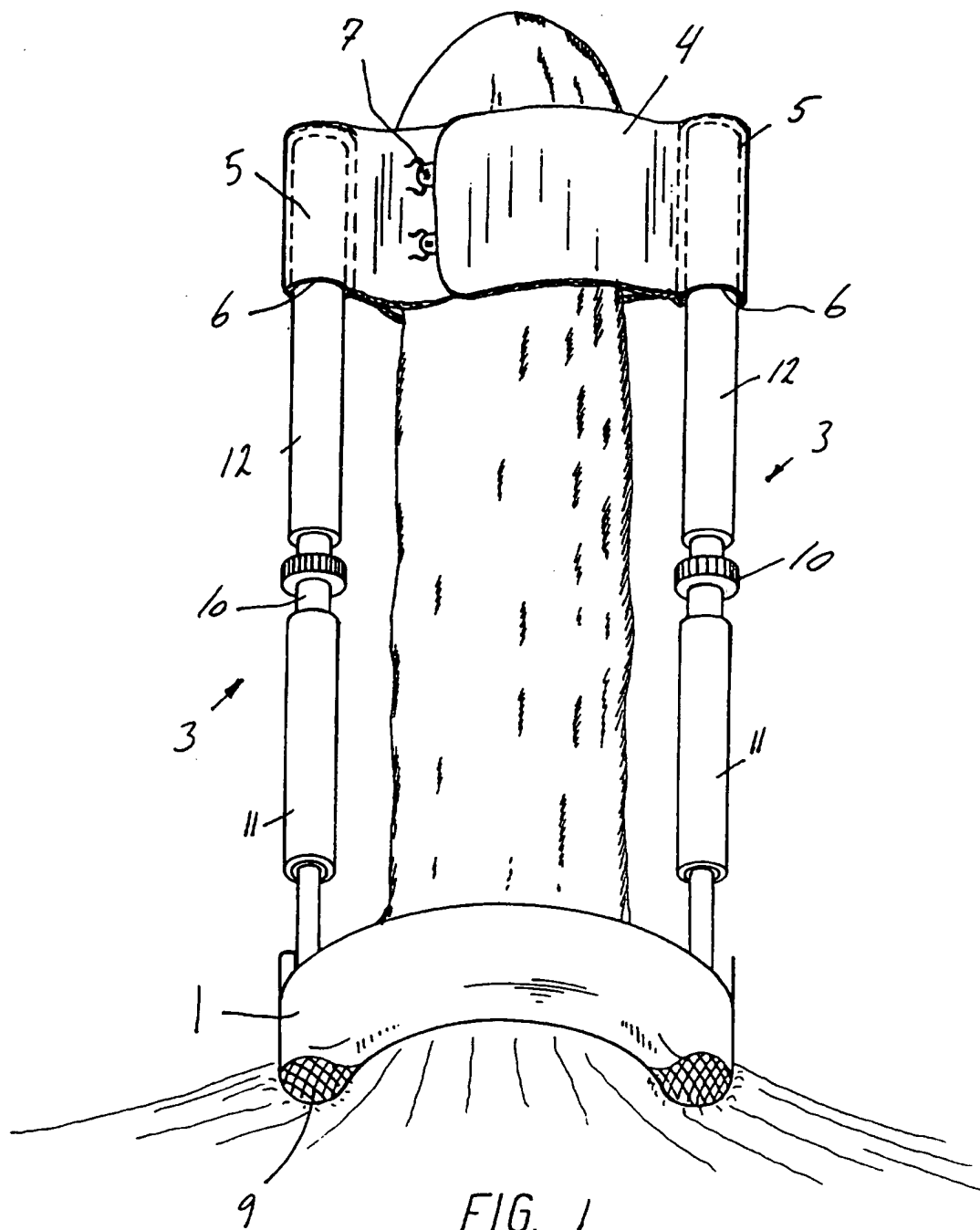
25 9. An apparatus according to one or more of claims 4-7,  
c h a r a c t e r i z e d in that the holding means are formed by a support part (20) which is adapted to be secured to the connecting elements (3) and a strap (24), said strap (24) being adapted to be secured around the  
30 penis and to secure the penis with respect to the support part (20).

10. An apparatus according to one or more of the preceding claims, c h a r a c t e r i z e d in that the ring-  
35 shaped element (1) comprises a recess (8) at an area



along its inner periphery, adapted to face downwards when the apparatus is mounted on the penis.

1/4



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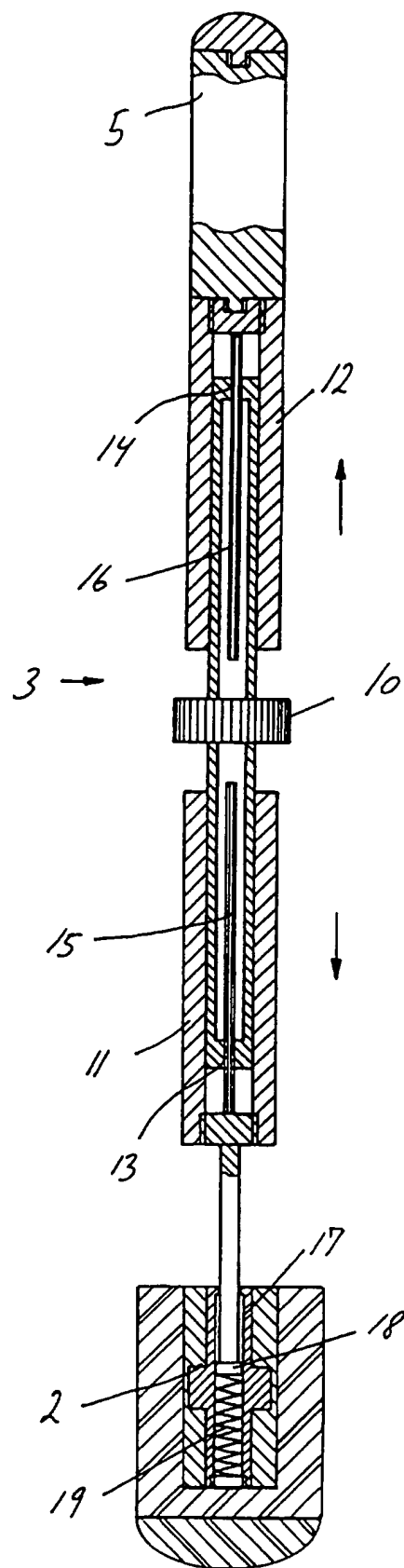


FIG. 2

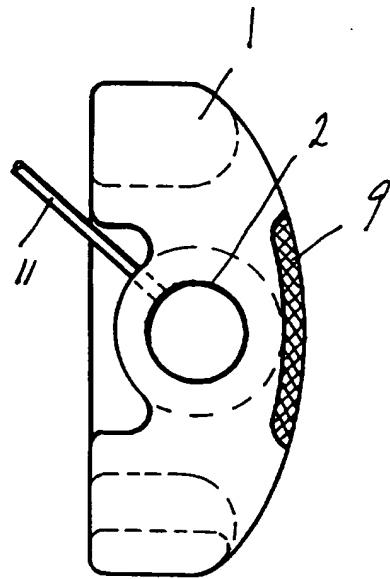


FIG. 3

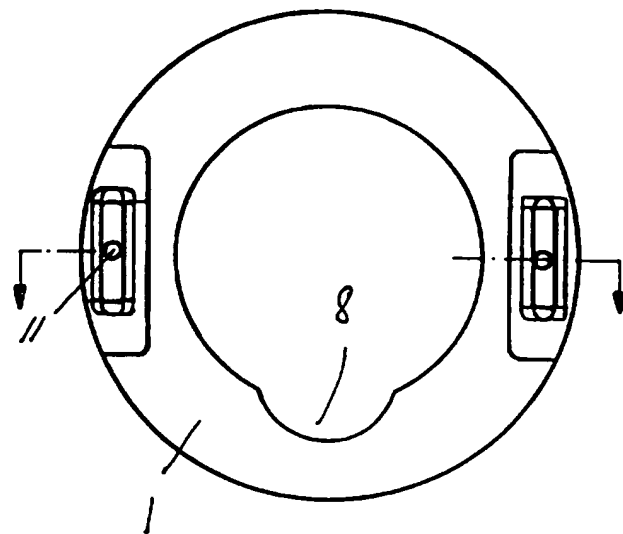


FIG. 4

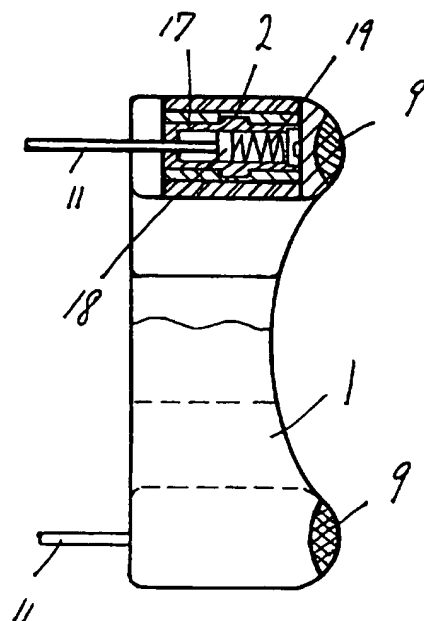


FIG. 5

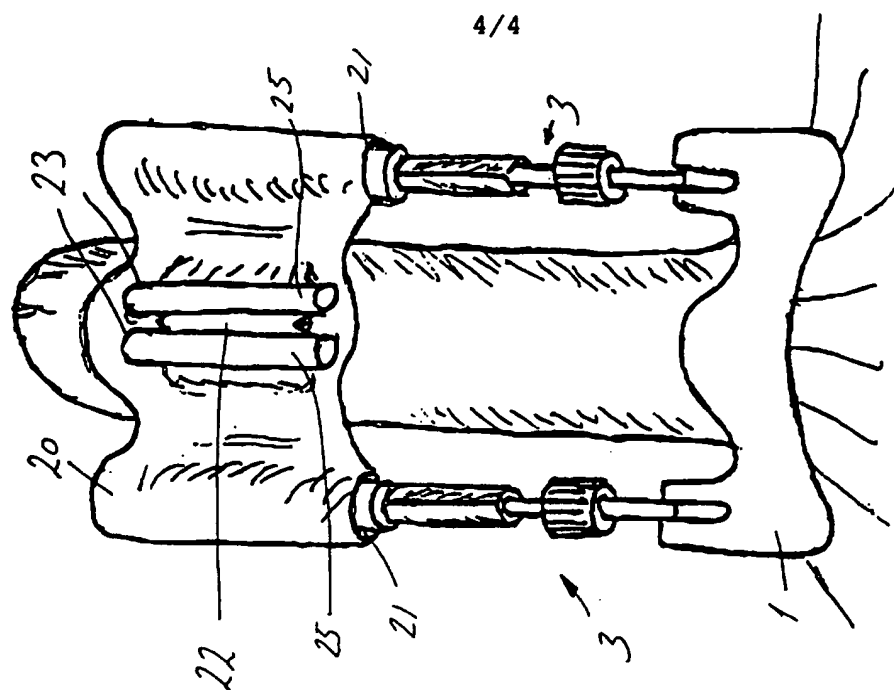


FIG. 7

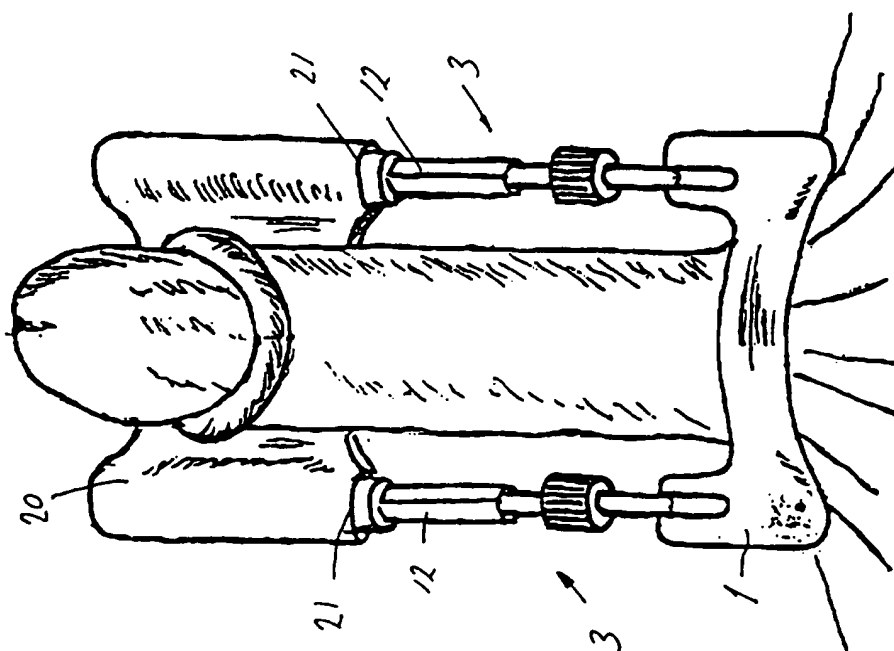


FIG. 6

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/DK 95/00407

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: A61F 5/048, A61F 5/41

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

QUESTEL 2

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 853410 A (E.D. HUEBNER), 14 May 1907 (14.05.07), page 1, line 52 - line 81, figure 1 --	4-5,8-10
X	US 4449521 A (J.S PANZER), 22 May 1984 (22.05.84), column 3, line 24 - line 35, figures 2-4 --	4
A	EP 0370932 A1 (JOST, DIDIER), 30 May 1990 (30.05.90), figure 1 --	4
A	US 1013924 A (A. BITTERLICH), 9 January 1912 (09.01.12), figure 1 -- -----	4-5

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Date of the actual completion of the international search

30 July 1996

Date of mailing of the international search report

31 -07- 1996

Name and mailing address of the ISA/

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**CORRECTED**

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/DK 95/00407

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-3  
because they relate to subject matter not required to be searched by this Authority, namely:  
Methods for treatment of the human body by surgery or therapy  
(PCT Rule 39.1 (iv))
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (1)) (July 1992)

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

01/07/96

International application No.  
PCT/DK 95/00407

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US-A-	853410	14/05/07	NONE		
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US-A-	4449521	22/05/84	CA-A-	1203446	22/04/86
			EP-A, A-	0120933	10/10/84
			WO-A, A-	8401284	12/04/84
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EP-A1-	0370932	30/05/90	AU-A-	4523689	14/05/90
			CA-A-	2001614	27/04/90
			DE-T-	68907862	14/04/94
			FR-A-	2638352	04/05/90
			WO-A, A-	9004373	03/05/90
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US-A-	1013924	09/01/12	NONE		
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